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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,319	12/12/2001	W. Scott Thielman	013013-026179	4291
7590 06/17/2004 JONES, DAY, REAVIS, & POGUE 77 West Wacker Chicago, IL 60601-1692			EXAMINER MACKEY, JAMES P	
			ART UNIT	PAPER NUMBER

\* 1722

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/015,319

Applicant(s)

THIELMAN ET AL.

Examiner

James Mackey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) 1-14 and 28-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-27 and 49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-49 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/12/01; 6/13/02; 5/23/03
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_

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1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-14, drawn to a process of continuously forming thermoplastic products, classified in class 264, subclass 165+.
  - II. Claims 15-27 and 49, drawn to an apparatus for continuously forming thermoplastic products, classified in class 425, subclass 371.
  - III. Claims 28-38, drawn to a method of making an embossing tool, classified in class 219, subclass 121.64.
  - IV. Claims 39-48, drawn to an endless metal embossing tool, classified in class 425, subclass 471.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions of Group I and Group II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus can be used to practice another and materially different process such as using the apparatus for casting metals.
3. Inventions of Group III and Group IV are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product belt as claimed can be made by another and materially different process such as by adhesively bonding the interfacing material to the opposing ends, or by heat welding

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the opposing ends rather than laser welding, or by welding together the opposing ends of a single segment instead of two or more assembled segments.

4. Inventions of Groups I and II, and Groups III and IV, are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the press bands are not required to be made by welding of opposing ends via an interface material which is of different material than the belt material. The subcombination has separate utility such as use in a single belt casting apparatus rather than a double band press.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, and because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Applicant's representative on 23 March 2004, a provisional election was made with traverse to prosecute the invention of Group II, claims 15-27 and 49. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-14 and 28-48 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

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application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 15-27 and 49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 15, line 4, “relatively planar” is indefinite as to the scope of “relatively” (it is suggested that the phrase be changed to read --substantially planar--).

In claim 23, “said pressure producing means” lacks proper antecedent basis, and should be changed to --said pressure applying means-- to agree with the recitation in claim 15 at line 9. Further in claim 23, “is provided a range” is unclear and apparently incomplete (it is suggested that the phrase be changed to read --is capable of applying pressure to said material in a range--).

In claim 26, “said heating means combining said material to between the range” is unclear as to what is combined and how the heating means accomplishes the combining, and is apparently incomplete.

In claim 27, “said cooling means is in the range of” is indefinite as to how the temperatures define the structure of the means (it is suggested that the phrase be changed to read --said cooling means is capable of cooling said material within a range of--).

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 15-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Held (U.S. Patent 4,844,766).

Held '766 teaches an apparatus for forming a thermoplastic web, comprising a continuous double band press 1 having upper and lower primary bands 28, 29 providing a planar region therebetween, the bands each having a patterned, structured tool surface for imparting an embossed pattern on the surface of the plastic web (col. 5, lines 43-55), means 2 for continuously feeding thermoplastic material through the press and between the bands, means for heating the material within the press to an embossing temperature (col. 6, lines 29-49), means for applying sufficient pressure to the belts (col. 3, line 66 through col. 4, line 2) to cause the engagement of the thermoplastic material with the belts and the tool surface (col. 5, lines 32-35), and means for cooling the material while maintaining pressure on the material (via the pressure plates) and while the material is moving through the press (col. 4, lines 49-54). Held '766 further teaches that a separate overlay band having the patterned tool surface thereon may be positioned on each primary band instead of forming the tool surface on the primary bands (col. 5, lines 55-68).

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claims 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Held (U.S. Patent 4,844,766).

Held '766 teaches the apparatus substantially as claimed, as described above, except for explicitly disclosing specific operational parameters such as the pressures applied by the pressure applying means, the heating temperatures applied by the heating means, the cooling temperatures applied by the cooling means, and the line speed of the band press. However, insofar as such claim recitations define the structures of the claimed apparatus, the double band press operational parameters of pressures, heating temperatures, cooling temperatures and line speed of the press were generally well known in the art at the time the invention was made in the manufacture of embossed thermoplastic products. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Held '766, if not in fact intended, by providing the pressure applying means as capable of applying pressures within the claimed range, by providing

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the heating means as capable of applying temperatures within the claimed range, by providing the cooling means as capable of applying temperatures within the claimed range, and by providing the band press as capable of applying a line speed within the claimed range, as was well known in the art in order to provide appropriate operational parameters for embossing of conventional thermoplastics such as acrylics, polyesters, polycarbonates, etc. and thereby perfect the embossing operation, without undue experimentation. Note that the manner or method in which a machine is to be utilized is not germane to the issue of patentability of the machine itself, *In re Casey*, 152 USPQ 235; a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations, *Ex parte Masham*, 2 USPQ2d 1647.

16. Claim 49 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The prior art of record does not teach or fairly suggest an apparatus comprising a continuous double band press having upper and lower primary bands, at least one of the primary bands being provided with a tool surface having the inverse topography of the precision microstructured surface to be formed, the tool surface being provided on an overlay band positioned on one of the primary bands, material feeding means, heating means, means for applying pressure to the primary bands, and means for cooling the material while maintaining pressure on the material and while the material is moving through the press, and further including tracking/steering means for the overlay band for maintaining alignment with the primary band, as claimed in claim 49.



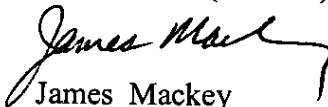
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17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Mackey whose telephone number is 571-272-1135. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
James Mackey  
Primary Examiner  
Art Unit 1722

6/10/04

jpm  
June 9, 2004